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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/867,879	05/30/2001	Richard Henry Sternagle	1322/66	7103

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EXAMINER	
TRAN, PHILIP B	

ART UNIT	PAPER NUMBER
2155	

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/867,879	STERNAGLE, RICHARD HENRY	
	Examiner	Art Unit	
	Philip B. Tran	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17 and 24-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *13-15,25 and 26* is/are allowed.

6)☒ Claim(s) *1-12,16,17,27 and 28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-4, 6-7, 16-17, 24 and 28 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Yoakum et al (Hereafter, Yoakum), U.S. Pat. No. 6,421,674 in view of Leung, U.S. Pat. No. 5,937,343.

Regarding claim 1, Yoakum teaches a session initiation protocol (SIP) signaling router comprising:

(a) a plurality of cluster nodes for performing at least one session initiation protocol function, each cluster node storing a local database containing SIP location information (= a plurality of SIP proxy servers with each containing a database that stores records) [see Fig. 5 and Abstract and Col. 2, Lines 13-63 and Col. 4, Lines 13-60]; and

(b) a location server coupled to the cluster nodes for maintaining a database of SIP location information and for automatically replicating the database of SIP location information to each of the cluster nodes in real time in response to receiving updates to the SIP location information (= master proxy server with a database containing the address of a plurality of SIP proxy servers A-Z for implementing a real-time, distributed,

hierarchical database in which database records are distributed across multiple physical machines located in different locations) [see Figs. 2 & 5 and Col. 2, Lines 1-3 and Col. 2, Lines 13-29 and Col. 8, Lines 48 to Col. 9, Line 42].

Yoakum does not explicitly teach replication of database data to update data records wherein each of the nodes contains common SIP location information. However, Leung, in the same field of telecommunication network endeavor, discloses updating replicated databases wherein each of the nodes contains common version of records [see Leung, Abstract]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of Leung into the teaching of Yoakum in order to maintain copy of data records available at multiple locations in the network for easy and efficient retrieval.

Regarding claims 2-4, Yoakum further teaches the SIP signaling router of claim 1 wherein each of the cluster nodes comprises a SIP proxy server an a SIP redirect server [see Fig. 5].

Regarding claims 6-7, Yoakum further teaches the SIP signaling router of claim 1 comprising first and second layer 2 switches coupled to each of the cluster nodes wherein each of the cluster nodes include first and second network interfaces and the first layer 2 switch is coupled to the first network interface of each of the cluster nodes and the second layer 2 switch is coupled to the second network interface of each of the cluster nodes [see Fig. 2].

Regarding claim 16, Yoakum further teaches the SIP signaling router of claim 1 wherein the cluster nodes and the location server each comprise stand alone computers or workstations [see Figs. 2 & 5].

Regarding claim 17, Yoakum further teaches the SIP signaling router of claim 1 further comprising an inter-processor message transport bus for carrying message between the cluster nodes and the location server, wherein the cluster nodes and the location server each comprise a printed circuit board connected to the inter-processor message transport bus [see Figs. 2 & 5].

Claim 24 is rejected under the same rationale set forth above to claim 1.

Regarding claim 28, Yoakum further teaches the method of claim 24 wherein the SIP signaling messages include SIP INVITE messages [see Col. 2, Lines 30-63].

3. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoakum et al (Hereafter, Yoakum), U.S. Pat. No. 6,421,674 674 in view of Leung, U.S. Pat. No. 5,937,343 and further in view of Bommareddy et al (Hereafter, Bommareddy), U.S. Pat. No. 6,779,039.

Regarding claims 8-10, Yoakum and Leung do not explicitly teach the SIP signaling router of claim 7 wherein at least one of the first and second layer 2 switches

is configured to periodically ping each of the cluster nodes to determine sub-application level protocol stack operational status of the cluster nodes wherein the first layer 2 switch is adapted to periodically send health check messages to each of the cluster nodes to determine application-level operational status and wherein the first layer 2 switch is adapted to determine the operational status based on the response time of each of the cluster nodes to the health check messages.

However, Bommareddy, in the same field of network flow endeavor, discloses health check operation of cluster nodes [see Bommareddy, Col. 3, Lines 39-48 and Col. 6, Lines 30-45 and Col. 7, Lines 40-49]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of Bommareddy by periodically sending health check messages to each cluster node in order to monitor and control the health of cluster node and detect if there is any failure or traffic congestion occurred.

Regarding claims 11-12, Yoakum and Leung do not explicitly teach the SIP signaling router of claim 6 wherein the first and second layer 2 switches are redundantly connected to each of the cluster nodes wherein the first and second layer 2 switches are adapted to dynamically reroute SIP signaling traffic around congested or failed signaling links using a link aggregation control protocol.

However, Bommareddy, in the same field of network flow endeavor, discloses redundancy of connections to cluster nodes [see Bommareddy, Figs. 1 & 8 and Abstract]. It would have been obvious to one of ordinary skill in the art at the time of the

invention was made to incorporate the teaching of Bommareddy in order to dynamically reroute SIP signaling traffic around congested or failed links.

4. Claims 5 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoakum et al (Hereafter, Yoakum), U.S. Pat. No. 6,421,674 in view of Leung, U.S. Pat. No. 5,937,343 and further in view of Lin et al (Hereafter, Lin), U.S. Pat. No. 6,088,721.

Regarding claim 5, Yoakum and Leung do not explicitly teach the SIP signaling router of claim 1 wherein the location server is adapted to replicate the database of SIP location information to each of the cluster nodes using a reliable multicast transport protocol (RMTP).

However, Lin in the same field of replication of objects endeavor, discloses replication of objects from a server to a plurality of cluster nodes such as caching servers using a reliable multicast transport protocol (RMTP) [see Lin, Col. 3, Lines 35-62]. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to incorporate the teaching of Lin in order to provide lossless delivery of data stream in the network to the destinations.

Claim 27 is rejected under the same rationale set forth above to claim 5.

Allowable Subject Matter

5. Claims 13-15 and 25-26 are allowed.

6. Applicant's arguments with respect to claims 1-17 and 24-28 have been considered but are moot in view of the new ground(s) of rejection.

Other References Cited

7. The following references cited by the examiner but not relied upon are considered pertinent to applicant's disclosure.

A) Leung, U.S. Pat. No. 5,937,343.

B) Wengrovitz, U.S. Pat. Application Pub. No. US 2002/0110113 A1.

C) Xu et al, U.S. Pat. No. 6,738,390.

D) Schuster et al, U.S. Pat. No. 6,650,901.

E) Corneliussen, U.S. Pat. No. 6,601,099.

F) Donovan et al, U.S. Pat. No. 6,615236.

G) Hagen, U.S. Pat. Application Pub. No. US 2002/0075844 A1.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Tran whose telephone number is (571) 272-3991. The Group fax phone number is (703) 872-9306. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar, can be reached on (571) 272-4006.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Philip Tran

Philip B. Tran
Art Unit 2155
June 02, 2005